Canadian Environmental Advisory Council
Conseil consultatif canadien de l'environnement

1987-88
1988-89

Canadian Environmental Advisory Council

Review of Activities

Canada

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Canadian

Environmental

Advisory

Council

Enquiries concerning the work of the Council and requests for Council publications should be addressed to:

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CANADIAN ENVIRONMENTAL ADVISORY COUNCIL

The Canadian Environmental Advisory Council (CEAC) is a body representing a cross section of Canadians who are knowledgeable and concerned about the environment. It operates in a confidential advisory capacity to the federal Minister of the Environment. It provides the Minister with an alternative to the advice provided by the Department of the Environment (Environment Canada) and other federal agencies, and to the advice of specific interest groups. Council's public role, in terms of activities such as the publishing of reports, is therefore secondary to its primary function of providing advice to the Minister of the Environment.

Canadian Environmental Advisory Council

Conseil consultatif canadien de l'environnement

Minister of the Environment
Ottawa, Canada

Dear Minister:

It is with great pleasure that I submit to you the Council's Review of Activities for the period 1 April, 1987, to 31 March 1989. The Council was very active during this period, particularly with respect to the Canadian Environmental Protection Act, the Environmental Assessment and Review Process, and the followup to the release of the report of the World Commission on Environment and Development.

On behalf of all Council members, I would like to convey to you our best wishes and our commitment of future service.

Sincerely,

Robert Page
Chairman

Canada

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COUNCIL OPERATIONS

Membership

During the period covered by this report, 1 April 1987 to 31 March 1989, membership in the Council reached the lowest number in recent years. For a brief period the Council operated with only six members, but as the short-term funding for the Council improved and its future role was clarified, several new appointments brought the regular membership up to 11 by March 1989.

This period began with the appointment of a new Chairman, Dr. Robert Page of Trent University, Peterborough. Dr. Page was first appointed to the Council in 1985. He had previously served as the Chairman of the Environmental and Resource Studies Program and was a Director of the Frost Centre for Canadian Heritage and Development Studies at Trent University.

The following members completed their terms during 1987-88 and 1988-89:
Mr. J.L. Fryer
National Union of Provincial
Government Employees
Ottawa, Ontario

Dr. J.A.F. Gardner
University of British Columbia
Vancouver, B.C.

The appointments of the following members were changed or extended during the period:

Dr. Robert Page, appointed Chairman, 1 April 1987;

Mr. Tom Beck, former Chairman, appointed Chairman Emeritus, 1 April 1987;

Dr. Shirley A.M. Conover, re-appointed as a vice-chairperson;

Dr. Lorne Giroux, re-appointed as a member.

The following new members were appointed during this period:

Dr. Jim Butler
University of Alberta
Edmonton, Alberta

Dr. Peter Chapman
E.V.S. Consultants Ltd.,
North Vancouver, B.C.

Mr. J. Doug Cook
Esso Petroleum Canada
Toronto, Ontario

Dr. Hélène Connor-Lajambe
Centre d'analyse des
politiques energetiques
St-Bruno de Montarville, Québec

Mr. Glenn Warner
Northwest Territories Water Board
Yellowknife, N.W.T.

A complete list of members as of 31 March 1989 appears in this Review as Annex A.

Meetings

The Council began this period on a hesitant note because of funding problems, but as short-term resources were provided it developed a heavy schedule of workshops, task forces and Council and Executive Committee meetings.

During the 24 months covered by this review, the Council held 11 meetings of the full Council and an equal number of meetings of the Executive Committee. Increased emphasis was placed on holding meetings in various parts of the country in order to gain first-hand knowledge of environmental issues and to improve contacts with local and regional public interest groups and government officials. Of the 22 formal meetings, only nine were held in the Ottawa area. Other locations included: Charlottetown, Toronto, Halifax, Saskatoon, Regina, St. Andrews, Vancouver and Victoria. Two of the above Council meetings were scheduled to coincide with the annual assemblies of federal and provincial councils — the October 1987 meeting held in Toronto, Ontario and the September 1988 meeting held in St. Andrews, New Brunswick.

One event worthy of note was the holding in February 1988, of the 100th meeting of the full Council. Meeting No.1 was held on 10 May 1972, shortly after the Council was formally established.

There were numerous meetings of groups of members set up as task forces to guide the Council's efforts on several projects. The Council also continued to harness the talents of its alumni for workshops on major issues, including: the Canadian Environmental Protection Act, Amendments to the National Parks Act, Land Use Planning and Sustainable Development, PCB Waste Destruction, and the Environmental Assessment and Review Process (EARP).

In preparation for the workshop on EARP, the Council held a joint meeting with the Canadian Environmental Assessment Research Council (CEARC).

Representatives of the Council also met in November 1988 with representatives of the Council on Environmental Quality (CEQ), an advisory body to the President of the United States, as a preliminary step toward arranging a future joint meeting of the two councils.

Publications

Of the major issues studied by the Council during this two-year period, four resulted in the publication of formal reports. This reflected the Council's primary role as an advisor to the Minister of the Environment. Much of the advice was provided in an informal manner, either orally or in writing. The section of this review entitled "Council Studies and Reviews" indicates the nature of that advice.

The Council published the following four reports during this period:

Canada and Sustainable Development

> This report was the Council's commentary on *Our Common Future*, the report of the World Commission on Environment and Development (Brundtland Commission), and its implications for Canada.

Listing Toxics Under CEPA — Is the Chemistry Right?

> This was a follow-up to the Council's earlier work on the proposed Environmental Protection Act, but examined in more detail the listing and regulation of toxic chemicals.

Preparing for the 1990s: Environmental Assessment, an Integral Part of Decision Making

> The Council undertook a review of the Environmental Assessment and Review Process (EARP) at the request of the Minister, and this report documented the Council's findings and recommendations.

PCBs: A Burning Issue

> This report was prepared by the Council in response to a request by the Minister for advice on the siting of a mobile PCB incinerator.

A complete list of the Council's publications to date appears in this Review as Annex B.

Staff

Two full-time staff continued to provide support for the Council's operations during this period, with additional assistance obtained through temporary help and service contracts. One additional position was added late in 1988 and it was filled on a temporary basis. Staff support included organizing meetings of the Council, Executive Committee and task forces; researching and gathering information on subjects under review by the Council; preparing or editing reports, managing contracts, and performing other administrative responsibilities.

In addition to the work associated with the Council's studies and publication of the four reports described above, the staff completed work on several administrative and communications projects including: design of a new logo and stationery, installation of computers and fax machines to increase efficiency and speed up communications, and preparation of new organization and staff profiles.

There was one change in the staff during this period. Mr. Max McConnell, who had served as Executive Secretary and then Executive Director since 1982, retired in August 1988. Mr. Ken Ogilvie, who had previously served with the National Task Force on Environment and Economy, took over as the Acting Executive Director. Mrs. Veena Halliwell continued as Project Coordinator.

COUNCIL STUDIES AND REVIEWS

During the 24 month period from 1 April 1987 to 31 March 1989 the Council made an effort to focus its efforts on a few high priority issues and to undertake in-depth analyses on those issues. This proved difficult because of the number of major issues that arose during this period requiring Council's advisory attention, and the need for follow-up work on studies undertaken in previous years. Because of the circumstances and the Council's limited resources, it was necessary to delay action on some topics until future years.

"Sustainable Development" was the main theme during 1987-88 and 1988-89. The studies and activities which were directly related to that theme have been grouped at the start of this section of the review: Canada and Sustainable Development, National Task Force Report and National Round Table, Land Use Planning and Sustainable Development, and Environment and Economy.

Canada and Sustainable Development

The 1985-87 Review of Activities described the Council's work in relation to the World Commission on Environment and Development (WCED) or Brundtland Commission, up to the point where the report was ready for release. The report, *Our Common Future*, was made public in April 1987 and made a powerful case for global adoption of sustainable development — an approach linking environmental quality and human activities, including those of an economic nature.

There was concern in the Council that the Commission's report would gradually lose momentum unless there was specific follow-up action. At the Minister's urging the Council undertook the preparation of a statement, in part as a contribution towards Canada's presentation to the United Nations General Assembly, but beyond that as a means of promoting further discussion and action on sustainable development. The Council commissioned two background papers and began preparation of a report. The draft formed the basis of a half-day discussion with the Minister in August 1987 prior to the October meeting of the UN General Assembly. The final report, *Canada and Sustainable Development*, was published in December 1987.

The Council focussed its attention on three areas of long-term environmental interest:

1. Attitudes to the Environment: "Sustainable development will not be realized if there is no change in the popular perception of the natural environment as a limitless storehouse of wealth for human consumption".

2. Information and Environmental Analysis: There is a need for understanding of the environment and human interaction with it, based on both the natural and social sciences.

3. Institutions: Within government and industry, organizational re-structuring is required to ensure that all agencies undertaking economic development projects assume responsibility for the environment at the earliest stages.

National Task Force Report and National Round Table

These initiatives were major focal points for study, discussion and support by the Council during this period. The National Task Force (NTF) on Environment and Economy was established in October 1986 by the Canadian Council of Resource and Environment Ministers (CCREM) to anticipate and follow-up on the report of the Brundtland Commission, and to promote environmentally sustainable economic development. Its membership included seven ministers of the environment, seven representatives of the corporate sector, two from environmental interest groups, and one from the academic sector. The report of the National Task Force was presented to CCREM in September 1987 and received overwhelming support across Canada. One of its most important recommendations called for the establishment of Round Tables on Environment and Economy at the national, provincial and territorial levels. The round tables would serve as for a senior decision-makers from all sectors to work toward consensus on environment-economy integration.

The Council viewed the report as a major step toward bringing the environment into the centre of decision-making by industry and government. The main concern of the Council was that moves be made quickly to translate the recommendations of the Task Force into action before the initiative lost momentum.

Members of the Council focussed their support efforts primarily on action at the national level. No major studies were undertaken by the Council as a direct follow-up to the Task Force report, but the Council provided advice and support to the Minister, and members met informally with senior government officials, representatives of industry and public interest groups to promote actions on the recommendations of the Task Force. During these discussions, the Council urged action to establish the National Round Table on Environment and Economy, and called for the addition of the National Task Force Report to the agenda of the First Ministers' Conference in November

1987. The NTF Report was discussed by the First Ministers, and the National Round Table was established in 1988-89.

Throughout this period the Council also helped to promote action on the report of the National Task Force throughout the country by consultation with provincial environment councils. A resolution endorsing the recommendations of the National Task Force was adopted at the 1987 Assembly of Environment Councils. The resolution urged that First Ministers assume "an overall leadership role and demonstrate a commitment to environment-economy integration..." The complete text of the resolution appears in this Review in the section, "Assemblies of Environment Councils of Canada".

Land Use Planning and Sustainable Development

Early in 1988 the Council decided to undertake a study on land use planning as part of its follow-up to the Brundtland Commission's report. In the Council's view, land use planning had generally been perceived and practised within a very narrow, and usually localized, context. In reality, "land" in its broadest geographical sense embraces the accessible space at the earth's surface, i.e. the soil-water-air interface, and ecologically-oriented land use planning is the primary route toward achieving sustainable development.

The Council commissioned a study on land use planning from this perspective mid-way through 1988. It was hoped that the study would play a role in expanding the practice of land use planning from that of a functional specialty to that of a broad ecology-based approach to environmental management. The specific objectives of the study were: to identify general principles of land use planning and their application to the achievement of sustainable development; to examine the federal interest and role in land use planning; to stimulate interest and debate; and to motivate changes in land use planning.

In October 1988 the Council held a workshop on the subject and reviewed two drafts of the study report. By year-end the report was nearing completion and was scheduled to be published early in 1989-90.

Environment and Economy

The Council's earlier work on environment-economy linkages, including follow-up to the report produced in 1985-86, was carried on under the umbrella theme of sustainable development. No major projects were completed during the period covered by this Review, but the Council continued its efforts to encourage studies by other groups and organizations, including the Economic Council of Canada.

Some initial planning was undertaken for a study on "Economic Incentives for Environmental Decision-Making". A preliminary discussion paper was prepared which identified a range of incentives, from grants or tax credits for the installation of pollution abatement equipment to a tax on pollutant emissions.

Further action on this initiative was pending at the end of 1988-89.

Canada's International Role

Canada's role in environmental issues on a global basis was a second main theme adopted by the Council for its activities during this period. While there were no major studies undertaken to directly reflect this theme, the international aspects were incorporated into a number of the Council's activities, particularly in its report *Canada and Sustainable Development*, and its statement on the Environmental Assessment and Review Process. The Council's international interests also included a number of other activities that, in total, comprised a significant element of the Council's work. They included the following specific topics:

The Council strongly supported the establishment of the Centre for Sustainable Development in Winnipeg, announced by the Prime Minister at the United Nations General Assembly in September 1988. In the view of the Council, the Centre would provide an important avenue for advancing sustainable development in Canada and internationally.

Members reviewed the new "Environment and Development" policy of the Canadian International Development Agency, and commented informally. The Council viewed Canadian aid to developing countries as another major avenue for encouraging adoption of a sustainable development approach on a global basis.

The Council supported a Canadian initiative for the establishment of a Nobel-style award for outstanding achievements in the earth and environmental sciences. Discussions were still underway at the end of 1988-89.

In its report, *Canada and Sustainable Development*, the Council proposed that Canada host a circumpolar conference on sustainable development and northern conservation strategies. The Council raised this proposal formally but, because there were several somewhat similar proposals, shifted its support to an initiative by Finland for international discussion on environmental protection in the Arctic.

Global Environmental Research

The Council scheduled a briefing for the Minister at the Council's August 1987 meeting on current findings from programs of interdisciplinary environment-related research being undertaken on a global basis. The briefing was held shortly after the quadrennial meeting of the International Union of Geodesy and Geophysics. The meeting was held in Vancouver and attended by approximately 4,000 scientists from 150 countries. Many of the scientists were reported to be alarmed because current research indicated that the condition of the Earth was much more serious than previously thought. This was being brought about by a combination of natural, on-going processes of change; current cyclical changes including solar flares and changes in the Earth's orbit that created stress patterns resulting in increased frequency of earthquakes and volcanoes that in turn were affecting climate; and, finally, human-made or human-influenced changes such as the greenhouse effect, thinning of the ozone layer, loss of forest cover and desertification. In particular, research indicated that the environment was less stable than had been previously thought, and that changes in the ecosphere were easily triggered by human activity.

The rapid expansion of understanding of natural processes and human-induced changes in the ecosphere was largely brought about through recent developments in research technologies — computers, satellite observations, experimental biology, and by new concepts and theories that joined geophysical, chemical and biological processes. This new understanding made it feasible to plan a longterm, planet-wide, multi-disciplinary study, called the International Geosphere-Biosphere Program of the International Council of Scientific Unions, which will involve and draw information from many disciplines and countries. The Council was concerned about Canada's ability to make an effective on-going contribution to the global research network, and its ability to make proper use of the data being produced. In the Council's view, Canadian science was falling behind science in many other countries because of their broader perspective on science; there were increasing difficulties in reflecting scientific findings in the development of policy; and there was a growing trend in Canada toward compartmentalization of science into a series of specialties which hampered our ability to understand and use the results of international, interdisciplinary science.

The Council considered several alternatives for future action including: periodic briefings of the Minister on current research; a series of seminars on the habitability of the planet to bring research findings to the attention of leaders in the public and private sectors; a presentation at an assembly of councils; and the preparation of a report or periodic reports on global environmental research findings.

Environmental Assessment and Review Process (EARP)

At the Minister's request, the Council undertook an independent review of the Environmental Assessment and Review Process. Proposals for change were made in a discussion paper, *Reforming Federal Environmental Assessment*, that was released in September 1987. The Federal Environmental Assessment Review Office (FEARO) held a series of public consultations across Canada in November and December, and a final national consultation meeting in Ottawa in March 1988. As part of its independent review, the Council commissioned two background papers, held a joint meeting with the Canadian Environmental Assessment Research Council, and organized a workshop involving members and alumni of the Council in Toronto in January 1988. The Council's report *Preparing for the 1990s: Environmental Assessment, an Integral Part of Decision Making*, was submitted to the Minister and released at FEARO's national consultation meeting in March 1988.

The Council's previous involvement with EARP included recommendations on the initial establishment of EARP, a formal critique of the Process in 1979, and several informal proposals for revisions to the Process. The review undertaken in 1987-88 resulted in proposals for sweeping changes — 52 in all — in the way the environmental effects of federal government activities are assessed. The proposed changes included: entrenchment of EARP in legislation (also proposed in the Council's review of the proposed Environmental Protection Act); application of EARP to all federal departments, boards, agencies, crown corporations and regulatory bodies; a new high level environmental review mechanism for policies and programs in addition to assessment at the project level; greater opportunity for public involvement, including the provision of funding for citizen interventions; application of EARP to external aid projects; and increased powers and responsibilities for the Minister of the Environment.

Throughout 1988-89 there were informal consultations with the Minister and with FEARO on follow-up including the drafting of legislation.

Canadian Environmental Protection Act (CEPA)

Throughout the first half of the period under review, the Council was engaged in extensive follow-up to its work on the proposed Environmental Protection Act. This work was initiated late in 1986-87 and resulted in the publication of a report titled, *Review of the Proposed Environmental Protection Act*. During the initial stages this included discussions with the Minister, officials of Environment

Canada, and staff of the Department of Justice. Recommendations were made for further changes to the Act, including the addition of a definition of environment.

Following the tabling of the revised Act in the form of Bill C-74 in June 1987, the Council commissioned reviews from legal and scientific perspectives and made an analysis of the changes from the 1986 proposed Environmental Protection Act to the 1987 *Canadian Environmental Protection Act*. This work was undertaken in anticipation of a possible call to appear before the Parliamentary Committee reviewing Bill C-74.

The Council was particularly concerned about the need for inclusion of a priority list of toxics to "jump-start" action to control toxic chemicals as recommended in its initial study. In order to avoid duplicating the work of the Priority Substances Advisory Panel which was appointed by the Minister, the Council liaised with the Panel and focussed on the process for developing lists of toxic chemicals.

A working group of members undertook a review, and its report, *Listing Toxics Under CEPA — Is the Chemistry Right*? was submitted to the Minister in May 1988, and through the Minister to the Priority Substances Advisory Panel. A number of recommendations were made in the Council's report. In particular the Council cautioned that assessment and regulation under CEPA would not be effective if they were based solely on single-chemical lists, and that there was a need to incorporate bioassessment into the regulations in the form of toxicological testing. The Council also urged that any list of toxic chemicals be criteria-driven and include provisions for the addition and deletion of chemicals.

PCB Waste Destruction

In response to a request from the Minister, the Council undertook a study on an urgent basis of a proposal to incinerate federal PCB wastes. The study was launched in September 1988 and the report was completed and submitted to the Minister in February 1989.

Initially, the Council was asked to advise on possible sites for a mobile incinerator to destroy federal PCB wastes. The terms of reference were subsequently broadened to cover the process to be used in siting a mobile PCB incinerator, and the technological, social and public policy issues relevant to the federal PCB waste destruction program. During the course of its study the Council consulted with public interest groups, industry and federal and provincial officials. In particular, the Council organized a two-day workshop in Toronto at which experts on the siting of hazardous waste facilities joined Council members and representatives of environmental groups to discuss siting principles and issues.

The Council prepared a report titled *PCBs: A Burning Issue*, in which recommendations were made on the key elements of the process that the federal government should follow if it wanted to proceed with the siting of a mobile incinerator. As an alternative, the Council suggested a broader approach to the destruction of federal PCB wastes than simply the reliance on mobile incinerators. The Council recommended that the federal PCB program should be part of a national hazardous waste management program which would be developed by the Canadian Council of Resource and Environment Ministers. A complete list of the Council's recommendations, and a description of the rationale for its approach and conclusions, is included in the report.

Amendments to the National Parks Act

A review of proposed amendments to the *National Parks Act* was started late in 1986-87 following the tabling of Bill C-30 in the House of Commons and in response to a request from the Minister for advice from the Council. A working group of Council members undertook an analysis of the amendments. The group held two workshops, and consultations with representatives of interested groups. The amendments were discussed at several meetings of the full Council.

The Council supported the general thrust of Bill C-30, including the increase in fines for poaching, the establishment of wilderness areas within existing parks, the proposal for a Citizens Heritage Fund, and the legislation of boundaries for Banff and Jasper townsites and for ski areas within the national parks. Members cautioned that, while the *National Parks Act* was an effective tool for managing Canada's national parks, there were three factors of greater significance: the policies through which the Act is implemented, the level of funding provided, and the vision as to what our Park system will be as we enter the 21st Century.

The Council also recommended several additions to Bill C-30 including: specific provision for the establishment of National Marine Parks; provision for cooperative agreements with provinces, territories or private organizations; a legislated requirement for public consultation on new policies, new management plans, changes to boundaries, and large developments; inclusion of the first two principles of preservation of renewable resources from the *World Conservation Strategy*; and a legislated requirement for a biennial report to Parliament on the state of the park system.

National Park Establishment

The same Council working group that undertook an analysis of amendments to the National Parks Act also reviewed the report of the Task Force on Parks Establishment, *Parks*

2000, Vision for the 21st Century. The Task Force was established by the federal Minister of the Environment in April 1986 in response to a proposal by the Canadian Parks and Wilderness Society. The report of the joint public and private sector Task Force was released in June 1987.

The Council strongly supported the report's bold and imaginative vision and plan for the national park system into the 21st Century, and hoped that the enactment of the amendments to the National Parks Act would clear the way for action on the recommendations in the report. In particular, the Council supported the concept of "Canadian Heritage lands designation", noting that it provided a good mechanism for shared mandates between the provinces and the federal government, and that "the main priority is legal protection of important areas, not who is responsible for protection". The Council also noted that there were critical differences between new northern parks being created through land claim settlements and those in southern Canada. The differences included the requirements of native people for subsistence hunting and trapping, and the greater environmental sensitivity of northern parks. In the Council's view, the potential conflict created by these circumstances could be avoided through the heritage land designation.

The Council also commented on several current issues in national parks policy and administration including: advocacy by parks officials; the need for research and environmental monitoring in heavy use areas; phasing out of non conforming uses; and improved arrangements for joint management with native people.

During this period the Council supported and promoted the establishment of South Moresby and Grasslands national parks. It recommended that the establishment of new national parks at Saguenay, East Arm of Great Slave Lake, Lancaster Sound-Bylot Island, and Banks Island be included in the short-term priority list.

Future Role and Resources

Throughout this two year period the process of re-thinking and negotiating the future role of the Council, and the appropriate resources to perform that role, continued. Questions on the future role appeared to be resolved with the Minister's desire for the Council to increase its research and public education capability.The Council would continue operating in a confidential advisory capacity to the Minister, which had been its traditional role.

The need for re-thinking of the Council's role was prompted by a number of public proposals for change, or for establishment of a new form of council; by changes in the number, nature and severity of environmental problems; by the increasing public and private sector sensitivity to environmental issues; and by related institutional changes such as the establishment of provincial and national round tables on environment and economy. As part of this process of change, the Council commissioned a study of the different kinds of council and their characteristics as a background document for both current and future discussions. The study was nearing completion in March 1989.

Other

State of the Environment Report (SOE)

The Council's long-term activity on state of the environment reporting reached a peak during the months prior to publication of Canada's first national state of the environment report by Environment Canada in May 1986. After that time the Council continued to maintain a support and monitoring role. Members reviewed documents concerning the new SOE Advisory Board, the support organization in Environment Canada, and the agreement between Environment Canada and Statistics Canada. The Council noted in particular the need for improved systems to be built into the SOE reporting system, and the need for biological indicators as a means of measuring progress and maintaining scientific rigour.

Northern Environmental Issues

In response to requests from the Minister, the Council reviewed current northern environmental issues and provided advice. In particular, the Council supported the Minister's decision to ensure that the Environmental Assessment and Review Process would be applied to all new projects in the North, and prepared to support Canadian representations against the United States proposal to allow oil and gas development in the Arctic National Wildlife Refuge. This proposal was of particular concern because the Refuge is the main calving ground for the Porcupine caribou herd that migrates between the Yukon and Alaska. Oil and gas development would have an adverse effect on the herd, and on other shared migratory species.

Federal Water Policy

During this period the Council followed through on earlier work on water management, including its discussions on the report of the Inquiry on Federal Water Policy (Pearse Inquiry). Members reviewed the new *Federal Water Policy* which was released in November 1987, participated in a workshop organized by the Science Council of Canada, and reviewed the Science Council's subsequent report released in May 1988, *Water 2020 — Sustainable Use for Water in the 21st Century*. The Council participated in the 1988

Assembly of Environment Councils which recommended that the federal and provincial governments proceed with the development of "a comprehensive and coordinated water policy which will ensure a sustainable use and availability of our water resources for the present and future generations of Canadians".

Environmental Implications of Trade

Monitoring of developments on this subject continued during the 1987-89 period. Demand for copies of the Council's preliminary review, *Freer Trade and the Environment* continued. Because of other priorities, the Council was unable to undertake any follow-up studies, but reviewed the output of workshops and studies undertaken by other groups. In its discussions the Council emphasized one particular point: that trade negotiators should not bargain away the ability of the resource base to produce. The Council noted that the sustainability of the resource base needs to be a concern shared by all nations.

Environmental Awards

In 1988 the federal Minister of the Environment launched a new series of National Environmental Achievement Awards, and early in 1989 the Minister asked the Council to make the final selection of winners. The first awards ceremony was in June 1989.

Energy Options

The report of the Advisory Committee on Energy Options, *Energy and Canadians: Into the 21st Century* was released by the Minister of Energy, Mines and Resources in August 1988. Individual members of the Council had participated on the Energy Options Advisory Committee and in the consultation process which led to preparation of the report. The Council was pleased with the amount of attention given to environmental concerns in the report, but felt that it dealt with relatively short-term issues, and that it should be considered a first step in a continuing process of public consultation. At the end of 1988-89 the Council was considering its future contribution to the energy options consultation process, including an in-depth study on how sustainable development concepts can be integrated into the energy policy framework. The Council noted that there is no issue more central to sustainable development than the relationship between energy policy and the environment.

Nitrogen Oxide Emissions

The Council discussed the question of NOx emissions and the Canadian position during negotiations in Geneva and provided a letter containing its recommendations to the Minister. The Canadian government's approach was endorsed. The Council recommended that Canada continue to press for a reduction to pre-1987 levels of emissions across the board and speed up the implementation of Stage II of the reductions.

The Council recommended that Canada leave the negotiating table without signing any accord if agreement with the U.S. on reductions could not be achieved. Instead, Canada should announce and commit to its own level of reduction, in accord with the pre-1987 levels of emissions. The Council's recommendation was endorsed by the Minister.

ASSEMBLIES OF ENVIRONMENT COUNCILS OF CANADA

Two assemblies of the federal and provincial environment councils were held during the period under review. The assemblies enable the councils to exchange ideas, share common problems, learn from the experience of others, and build support for shared ideas and concepts. They have been held on an annual basis, with a few exceptions, since 1975, and are hosted alternately by the participating councils.

During this period assemblies were hosted by councils in Ontario and New Brunswick. A brief description follows, along with the recommendations or resolutions adopted at each. Because of the informal nature of the assemblies, resolutions are accepted with the understanding that each council will take action on the resolution according to its own views and circumstances.

1987 Assembly

The 11th Assembly of Environment Councils of Canada was held in Toronto and hosted by the Ontario Environmental Assessment Advisory Committee. In addition to Ontario, participants included Alberta, Quebec, New Brunswick, Nova Scotia and Prince Edward Island. The Canadian Environmental Advisory Council was represented by five members.

The overall theme of the Assembly was "Environment and Economy", with specific discussions focussed on the *Report of the National Task Force on Environment and Economy*, economic implications of environmental regulation, sustainable development, and conservation and sustainable development strategies.

The following resolution was passed at the conclusion of the assembly:

> "The Environmental Advisory Councils of Alberta, New Brunswick, Nova Scotia, Prince Edward Island, Quebec, Ontario and Canada in the assembly at Toronto on October 23, 1987 unanimously endorsed the recommendation of the `Report of the National Task Force on Environment and Economy' that:
>
> The First Ministers must assume an overall leadership role and demonstrate a commitment to environment-economy integration by:
> - Directing that cabinet documents and major government economic development documents demonstrate that they are economically and environmentally sound and therefore sustainable.
> - Discussing environment-economy integration at First Ministers' Conferences.
> - Ensuring that all levels and departments of government establish consultation processes which encourage and facilitate public involvement and influence in policy-making and planning processes.
> - Establishing formal mechanisms to hold Ministers and their departments accountable for promoting environmentally sound economic development.
> - Developing an environmental code of ethics and principles, including principles of prior notification and consultation, which will provide guidance on the management of environmental matters among governments in Canada."

1988 Assembly

The 12th Assembly of Environment Councils of Canada was held in St. Andrews and hosted by the Environment Council of New Brunswick. In addition to New Brunswick, participants included Manitoba, Prince Edward Island, Ontario and Quebec. The Canadian Environmental Advisory Council was represented by seven members.

The overall theme of the Assembly was "Setting the Environmental Agenda for a Canadian Freshwater Policy for the Year 2000." Discussion was generated through three workshops: "The Economy of Water", "Environmental Impact Assessments and Their Use in Formulating a Water Use Policy", and "Public Education and a Water Use Policy".

The following recommendations were developed through the workshop and plenary discussions:

> "1. For projects having potentially significant environmental impacts, there should be a mandatory environmental impact assessment which would include an independent public review. Explicit and publicly stated criteria should be developed to determine whether a project has potentially significant environmental impacts.
>
> 2. We recommend that no large volume interbasin transfers be permitted, with small volume transfers being allowed on a case by case basis.
>
> 3. Considering that water is a vital element for humans and all biotic life, it is important that Canada and its provinces adopt stringent measures to protect and ensure a sustainable utilisation of their water resources. The Provincial Advisory Councils and the Canadian Environmental Advisory Council during their annual meeting at St. Andrews, N.B. recommend that water resources be placed on the agenda of the upcoming CCREM Conference and that they proceed with the development of a comprehensive and coordinated water policy which will ensure a sustainable use and availability of our water resources for the present and future generations of Canadians."

Annex A

MEMBERSHIP
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Project Coordinator

Dr. E. Fred Roots
Science Advisor

March 31, 1989

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CANADA AND SUSTAINABLE DEVELOPMENT

Executive Summary

The publication of *Our Common World* by the World Commission on Environment and Development (WCED) is an important opportunity for Canadian policy-makers to focus their attention on the environmental concepts and principles which form the continuing basis of all human social and economic activity. The WCED's recommendation for a global effort to achieve sustainable development should stimulate action to strengthen Canadian environmental protection measures and management procedures.

The way in which Canada responds to the WCED will be particularly important because this country took the lead at an early stage in encouraging international recognition of environmental concerns. The degree of seriousness with which Canada pursues sustainable development in the domestic context will significantly affect its credibility abroad and consequently its ability to promote the adoption of improved environmental and resource management practices elsewhere.

CEAC agrees with the WCED that improved practices are essential, because environmental deterioration and resource depletion are now proceeding on a global scale and at an accelerated pace, with adverse consequences for all countries. Threats to human health and national security are becoming increasingly evident and economic dislocation can be expected.

CEAC believes that Canada's reaction to *Our Common Future* should be focussed on three areas of long-term environmental interest. It should, however, be emphasized at the outset that, in making its recommendations, CEAC is mindful of the immediate economic and social problems of developing nations as described by the WCED. The focus it has chosen is determined by its responsibilities as an advisory body and the particular standpoint which those responsibilities make possible.

Attitudes to the Environment: Sustainable development will not be realized if there is no change in the popular perception of the natural environment as a limitless storehouse of wealth for human consumption. What is required is nothing short of an alteration of mindset.

Recognition of the ecosphere as the home of humankind, and of other species, operating in accordance with its own integral processes, should be encouraged through comprehensive public education measures. These might include curriculum development for schools, adult information programmes of all kinds, and environmental management training for public servants and private sector employees. A "Decade of the Environment", if appropriately planned and financed, could contribute significantly to greater public awareness of sustainable development.

As a means of directing political attention to sustainable development issues, CEAC urges that a series of conferences and meetings be organized. We recommend:

- a televised two-day national summit on the economy and the environment;
- a circumpolar conference on arctic marine, wildlife and environmental management, hosted by Canada;
- active Canadian participation in a global conference on sustainable development.

Information and Environmental Analysis: There is a need for understanding of the environment and man's interaction with it, based on both natural and social sciences. This is the essential foundation for all aspects of effective environmental management — from resource allocation to compliance mechanisms.

Research in environmental science and related areas of the social sciences should be characterized by continuity, international compatibility, and promising interdisciplinary approaches. Strategic grants for environmental research would be highly desirable. Recent initiatives in state-of-the-environment reporting should be encouraged, and particular attention must be devoted to the demanding task of integrating environmental understanding into the process of government policy-making and follow-up monitoring. As CEAC has stated elsewhere, comparative data, both on environmental standards and regulations and on management programmes, must be accumulated and used for the purpose of defining effective avenues for legislative development.

Environmental principles must be incorporated into all aspects of government policy, including trade, regional development and foreign relations. To this end, research into economy/environment linkages will be necessary and it should be facilitated by strengthening the economic analysis capability of the Department of the Environment.

Institutions: Within government and industry, organizational re-structuring is required to ensure that all agencies

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Note: This is an extract from a report prepared and published by the Council in December 1987.

undertaking economic development projects assume responsibility for the environment at the earliest stages. The addition of the Minister of the Environment to the Priorities and Planning Committee of the Cabinet would be useful in this respect.

If the widely supported concept of trust obligations to future generations is to influence contemporary conduct, structural innovations in government will be required. It is essential to establish procedures of surveillance and independent review so that present governments can be held accountable for the consequences of their programmes and policies. The creation of an Environmental Council for Canada, or possibly the appointment of an auditor general for the environment, appear to offer means of strengthening accountability.

Through the UN and its agencies, and through the medium of bilateral and multilateral negotiations, Canada — as a middle power with a long-term interest in better environmental management on a global scale — should work to further the principles of sustainable development. The introduction of environmental assessment into Canada's international assistance programmes is a worthwhile initiative in this regard.

In summary, for the purpose of achieving sustainable development in Canada, CEAC recommends an extended federal and provincial programme, which might take the form of a "Decade of the Environment", incorporating the following initiatives:

- strategic grants for environmental research and continued efforts to refine, and make better use of state-of-the-environment reporting;

- comprehensive curriculum and public education measures designed to raise general awareness of the principle of sustainable development;

- a national summit on the economy and the environment, a circumpolar conference on arctic environmental management, and active Canadian participation in a global conference on sustainable development;

- the development of an economic analysis capability within Environment Canada and the addition of the Minister of the Environment to the Priorities and Planning Committee of the federal Cabinet, together with equivalent measures in the provincial sphere;

- incorporation of environmental principles into all aspects of government policy including trade, regional development and foreign relations;

- implementation of structural changes to ensure the accountability of federal and provincial governments for the environmental consequences of their programmes and policies;

- continuing efforts to encourage the adoption of long-term environmental management principles by other countries, including countries receiving Canadian international assistance.

PREPARING FOR THE 1990s: ENVIRONMENTAL ASSESSMENT, AN INTEGRAL PART OF DECISION MAKING

Executive Summary

This review has been carried out within the context of recent national and international developments which point to the close linkages between the environment and social and economic planning. Environmental assessment is a key tool in both planning and management. In preparing for the 1990s, the Government of Canada has an important leadership role to play, and a major strengthening of the existing Environmental Assessment and Review Process would contribute significantly to the goal of sustainable development.

This report contains a large number of recommendations which will substantially alter the present Process while retaining many of its features. Among the key changes that are proposed are:

- the development of specific environmental assessment legislation covering proposals for which the Government of Canada has the decision making responsibility;
- applicability of the Process to all departments, boards, agencies, crown corporations and regulatory bodies without qualification;
- retention of the principle of self-assessment, but subject to audit and override provisions;
- development and public review of screening criteria;
- environmental assessment procedures for dealing with site-specific projects detailed in regulations;
- a new high level environmental review mechanism for policy/program consideration;
- provision for alternative conflict resolution mechanisms;
- greater opportunity for public involvement at various stages of the Process, including provision for appeals to the Minister of the Environment for a more extensive review;
- greater responsibility for the Minister of the Environment including authority to initiate environmental impact assessments in certain circumstances;
- a requirement to negotiate interjurisdictional agreements to minimize unnecessary duplication;
- provision for formal hearing procedures, while preferring informal hearings as the norm;
- greater emphasis on post-implementation monitoring and feedback;
- strengthening bilateral aid policy to meet Canadian concerns about possible global environmental degradation;
- encouragement for the conduct of collaborative regional planning exercises to determine the extent of existing environmental stress and the ecological characteristics most susceptible to environmental disturbance in various parts of the country;
- support for intervenor funding by the proponent with funds administered by a small independent committee.

Acceptance and implementation of the recommendations in this report will require concomitant commitment of resources in both initiating departments and in the office responsible for the administration of the reformed Process.

In order to better visualize the overall Process as recommended, the report includes as Annex 7 a summary description of the reformed Process along with a diagram showing the entire flow from beginning to end.

Note: This is an extract from a report prepared and published by the Council in February 1988.

Annex E

LISTING TOXICS UNDER CEPA — IS THE CHEMISTRY RIGHT?

Executive Summary

This report discusses the development of priority chemical lists for regulation under CEPA, and as such provides information that may be of use to those designing such lists, including in particular the Priority Substances Advisory Panel. However, assessment and regulation under CEPA will not be effective if based solely on single-chemical lists; this report also discusses the need to incorporate bioassessment into the regulations in the form of toxicological testing of chemicals, substances and environmental media of concern.

This report contains a number of recommendations; key among them are:

- The List, the related selection criteria and the assessment process must be subject to peer review, and be technically defensible. As well, the technical validity of how the List is used must be clear.

- The List of toxic chemicals must be criteria driven, and include a mechanism to add or remove compounds as appropriate;

- Broad-scale approaches to substance listings (i.e. including mixtures, emissions and effluents) must be realistic and based on measurable parameters;

- Possible environmental problems such as electromagnetic radiation which are not substances and are thus not included under CEPA need to be evaluated for inclusion;

- Certain classes of hazardous substances are treated by specific legislation outside of CEPA, and each province has its own environmental legislation. CEPA must have overriding authority in cases where legislation and regulation are not at least equivalent to CEPA.

- There may be organizational problems within and among the Departments involved in CEPA; strong integrative activities are required to ensure smooth working interrelationships.

- Actions to be taken after the Toxic Substances Advisory Panel produces its List must be defined and the appropriate level of scientific and administrative expertise must be assigned to support CEPA;

- The credibility of CEPA depends on rapid action; at present, projections of time required to assess substances prior to their regulation are not appropriate to the challenge;

- The effectiveness of CEPA requires periodic assessment to determine whether the pollution level in Canada is decreasing, increasing or holding steady;

- The Brundtland Commission's recommendations (economy-environment linkages involving sustainable development) must be an integral part of CEPA and of regulations promulgated under CEPA.

Note: This is an extract from a report prepared and published by the Council in May 1988.

PCBs: A BURNING ISSUE

Background and Overview

A broad appreciation of the nature of the "PCB problem" and the way in which the public views this issue is essential since *the siting of hazardous waste destruction facilities, such as PCB incinerators, is primarily a social process, rather than solely a technological process.* Therefore, this report does not deal with environmental and technical matters in isolation, but as they relate to the social aspects of the siting process.

It is common knowledge that PCBs have been in commercial use since 1929 in a variety of industrial applications. However, their widespread and uncontrolled use has led to extensive and persistent contamination of the environment, especially when they have been stored in an inadequate fashion. Today, the distribution of these chemicals appears to be global, even impacting isolated Arctic settlements and contaminating the food chain. There are compelling reasons for completely phasing out the use of PCBs and ensuring their permanent disposal as expeditiously as possible, consistent with safe storage and transportation. The Council's major concern is to minimize further escape of PCBs into the air, water, or soil.

Public concern over PCBs is conditioned both by specific events and by the more general fear of toxic chemicals. Specific events in which public health and safety have been threatened, or when environmental contamination has occurred, include:

- The "Yusho" incident in Japan in 1968 when more than 1,500 people were affected by rice oil contaminated by PCBs.
- Evidence in the 1970s of elevated levels of PCBs in fish and fish-eating birds and mammals in the Great Lakes ecosystem.
- The "Kenora" spill of PCBs on the Trans-Canada Highway in Ontario in April 1985.
- The "Smithville" situation in Ontario in which extensive contamination of soil and groundwater resulted from improper storage of PCB wastes.
- The "St. Basile-le-Grand" fire at a warehouse in Quebec in August 1988.

These events demonstrate to the public the inadequacies of past PCB management practices, despite twenty years of regulatory actions by governments, including restrictions on PCB use since 1978, and additional restrictions on PCB use, sale and transportation in 1980 and 1985. Also, in 1985 the Canadian Council of Resource and Environment Ministers developed a national plan to eliminate PCBs from the Canadian environment. However, problems have continued to occur, leading to the latest round of regulations in 1988 and 1989.

Frequent inspections and the vigorous enforcement of PCB regulations and standards have been promised by all levels of government in reaction to the St. Basile fire. This is a critical part of the overall PCB management program since past "disasters" are largely attributable to regulatory failures. Governments in Canada can no longer avoid committing the necessary resources and political will to ensure that inspection and enforcement actions are effective.

It is clear that federal-provincial cooperation is the cornerstone of a comprehensive and effective approach to managing PCBs and other toxic chemicals. Despite the series of events which have propelled the PCB issue into public prominence, it is still not clear to the public or to the Council the extent to which such cooperation is occurring. The work of the Canadian Council of Resource and Environment Ministers to integrate provincial efforts with the federal initiative appears to be developing slowly but with some resistance. There is a strong onus on the federal government to consult closely with the provinces on this initiative and, commensurately, for the provinces to cooperate effectively with the federal government. The whole PCB initiative must be built on a solid foundation of federal-provincial cooperation and a concerted effort to build public trust.

PCBs can also be viewed as an indicator of the general public fear of chemicals. People are alarmed over inadequate waste management efforts by industry and governments. Due to past problems and federal and provincial regulatory failures, the public now mistrusts governments, industry, technology and technocrats. The public has also been left with a number of misconceptions and misunderstandings on the nature of chemicals and the ways in which they can be safely managed. *The federal effort to find sites for a mobile PCB incinerator will be strongly influenced by public fear and mistrust.*

From a purely technical point of view, there is an incentive

Note: This is an extract from a report prepared and published by the Council in February 1989.

to incinerate PCBs. Technologies exist which can destroy PCBs at destruction and removal efficiencies of 99.9999% or greater. *At this efficiency level, there will be more risk of release of PCBs to the environment from current storage and handling practices than from incineration.* Thus, the longer term environmental and public health risks of inaction on PCB disposal outweigh the risks of incineration. *The most immediate need is to ensure proper storage and handling of PCB wastes to prevent accidental releases to the environment while destruction facilities are being put in place.* The phase-out of PCBs from active use over the next five years will result in additional storage and handling risks if disposal facilities are not in place to ensure their rapid destruction. Therefore, an integrated and comprehensive approach to this issue is required to minimize environmental and human health risks while ensuring the cost-effective and timely phase-out and destruction of PCBs in Canada.

Despite the scientific logic supporting rapid implementation of the destruction program, there are sound reasons for proceeding cautiously to allow for public input. Each of the provincial processes has aroused more public concern and taken more time than originally estimated. In the case of British Columbia, the siting process collapsed even though it previously appeared to have achieved local approval. Siting process failures have occurred in other provinces for many reasons, including the failure to separate the proponent and regulator roles, and moving too quickly on siting initiatives before proper regulations and standards were in place. The high level of public concern generated by the provincial siting efforts for permanent facilities will undoubtedly reappear when the federal process is announced for the use of transportable or mobile technology. *The issues go far beyond technical feasibility to encompass a whole range of concerns involving health, safety, community impacts, on-going liability and the environment.*

REPORT OF THE NATIONAL TASK FORCE ON ENVIRONMENT AND ECONOMY

Towards Sustainable Economic Development

The economy and its participants exist within the environment, not outside it; we cannot expect to maintain economic prosperity unless we protect the environment and our resource base, the building blocks of development. Correspondingly, economic growth and prosperity provide us with the capability to support wise resource management and protect environmental quality. For this reason, we support the goal of sustainable economic development, which we generally define as development which ensures that the utilization of resources and the environment today does not damage prospects for their use by future generations.

At the core of the concept of sustainable development is the requirement that current practices should not diminish the possibility of maintaining or improving living standards in the future. This means that our economic systems should be managed to maintain or improve our resource and environmental base so that the generations that follow will be able to live equally well or better. Sustainable economic development does not require the preservation of the current stock of natural resources or any particular mix of human, physical and natural assets. Nor does it place artificial limits on economic growth, provided that such growth is both economically and environmentally sustainable. Sustainable economic development implies that resources and the environment must be managed for the long-term, taking into account their possible value in the future as well as their value now.

Governments and industry have reacted to correct many of the problems created by past mismanagement of the environment. Sustainable economic development calls for a different approach. It would minimize environmental impact and future clean-up costs by advanced and integrated planning. In a phrase, the remedial, reactive approach would be replaced by "anticipate and prevent" as the dominant concept underlying environment-economy integration.

The political and economic structures of Canada and the world are awakening to the need to make economic development sustainable. Decision making has not yet adapted to fulfill this need. Change is necessary, and it must occur now.

Efforts have been made in Canada to achieve sustainable economic development. The greatest weakness in these efforts has been the sectoral approach to planning and development. This too is starting to change, but the process must be accelerated. Governments increasingly recognize that they hold resources in trust for both present and future generations. Industry is increasingly working towards long-term environmental solutions. Limited progress to date by all sectors is a reflection of the complexity of the problems and of structural limitations in our economic, social and political systems.

The goal of sustainable economic development cannot be attained without significant change in the way our economic initiatives are planned and supervised. This makes it a challenging goal, even more so in the Canadian context because it will require different approaches in various economic sectors and political jurisdictions across the nation, although the same underlying principles should apply to every jurisdiction.

Note: This is an excerpt from the report of the findings of the task force established by the Canadian Council of Resource and Environment Ministers. The report was issued in September 1987.

Annex H

SUSTAINABLE REDEVELOPMENT: FOCUS FOR THE UNIVERSITY

by J. Stan Rowe

Change to be useful, said Hilda Neatby, must always be in harmony with some fundamental belief and some primary purpose consistent with that belief. The evolution of the University during its first 80 years was guided by beliefs and purposes appropriate to those times but less sure today, suggesting that useful change must henceforth be anchored to somewhat different beliefs and purposes. If the University's objective is to develop "a set of principles which collectively will form a statement of mission to guide the University as it adapts to a changing environment while preserving the best traditions from its past" (*Issues and Options Discussion Paper*, University of Saskatchewan, Summer 1986), then its foremost task along with critical reexamination of traditional values is identification of emerging new global beliefs and purposes.

When the University of Saskatchewan was established in the early years of this century, its beliefs and purposes were unquestioned. Assured of certain certainties, the President's vision of the University's sphere was unblurred; it was to be "service of the state in the things that make for happiness and virtue as well as in the things that make for wealth ... [and] advancement of learning" (President's Report 1908-1909). Merely to repeat the same clarion call for "service' (as vague and uninspiring as exhortations "to pursue excellence") stirs no rapid heart beat today.

Precisely those things that President Walter Murray took for granted need to be questioned. How can the University best serve the state? And what about service to the global community? What goals will be conducive to happiness and virtue for citizens of the world? Are we assured that the meaning of wealth and those things that it comprises are fully understood? Are there some kinds of learning that ought not be advanced? Does all technological innovation constitute "progress"?

In September 1987 the World Commission on Environment and Development (WCED) reported to the United Nations General Assembly that Earth's ability to support life is being seriously threatened by the influence of humanity. It indicated that ecology and the economics of human development "are becoming ever more interwoven — locally, regionally, and globally — into a seamless network of causes and effects". The Commission issued a call to "people of all countries and all walks of life to move quickly in restructuring national and international policies and institutions in order to foster the sustainability of social and economic development" (sustainable development). In this the WCED echoes the concern within the international scientific community that the very basics of the natural planetary systems that allow life to exist on Earth are being altered by human activities. These changes are unprecedented and appear to be escalating in magnitude. What is not often mentioned is that they are the fruits of these very beliefs and purposes subscribed to in Western culture, that motivated and directed the University of Saskatchewan in its younger years.

The idea is by no means new that the world, and human society in it, should be sustained. The urgency of taking the truism to heart, however, arises from the insight that Western culture has inadvertently set itself on the dead-end path of nonsustainability. To find a new direction is a difficult challenge. It involves reappraisal of dogmatic beliefs woven into the very fabric of culture about humanity's place in nature and about the roles of social institutions, especially educational institutions that the public views in a leadership role.

Sustainable development means the kind of economic development that can continue indefinitely without reducing the potentialities for replenishment and renewal of the global ecological system — the ecosphere. In one respect "sustainable development" is an unfortunate phrase, for by naming economic development as the goal of sustension rather than the ecosphere or world environment (without which no life, no human economy could exist), it weakens the essential message: the carrying capacities of the Earth's land and water ecosystems, based on their cyclic replenishment and renewal, must take precedence over the reproductive and exploitive proclivities of the human species. To escape the implication that tinkering with the current system is sufficient to perpetuate traditional development, the phrase "sustainable redevelopment" is preferred. It suggests a rethinking of development in the context of a sustained environment. Thus understood, it can also be read as "ecodevelopment," a word introduced by Maurice Strong at the 1972 Stockholm Conference on the Human Environment to emphasize the kind of careful symbiotic human activities that respect the ecosphere and are not disruptive of it.

To sustain means also to nourish and maintain in health. All human endeavours that keep the ecosphere and its regional ecosystems healthy will serve sustainability while contributing to the health of organisms (including humans) within them. The concept of health as a goal, interpreted

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Note: This is an abridged version of an essay prepared by one of the Council's vice-chairpersons. It was prompted by the Council's work on sustainable development, and was originally intended for discussion among the faculty of the University of Saskatchewan.

not only at the level of the individual but also at the more encompassing levels of society in its built environment, and of the sectoral ecosystems that the global ecosphere comprises, provides an integrating focus for education at all levels.

As an institution of reflective inquiry, the University is searching for its new role in society, for a new definition of its mission. But the University is fragmented, departmentalized, divided by labels into various sub-cultures: the Arts and the Sciences, the educators in "liberal" colleges versus those in "professional" colleges, the scholars and the researchers, the practitioners and the theoreticians. Nevertheless all share the same general culture, the same world-view, and are motivated by common values, beliefs and purposes. The University's first task is self-education, to make faculty aware of its shared Weltanschauung as the necessary point of departure for directional change that will require everyone's participation.

To anticipate-and-prevent is a better strategy than react-and-cure. The latter is patently unsuited to global threats such as nuclear war. Nevertheless most social effort is directed to cures, after the damage is done. Medicine is a good example. Deterioration of the health of the ecosphere, of ecosystems, organisms, and people, is an ever-growing source of scientific activity. It is no accident that scientists are first off the mark with global programs such as the International Geosphere-Biosphere Program (IGBP) while other sectors of society (and other sectors of the University) straggle along behind.

To anticipate-and-prevent is the more difficult task because its realm is ideas, values, emotions — the springs of human action. Using again the example of nuclear war, no scientific nor technological solution exists for it; prevention must come from political will, based on attitudes that attach higher importance to the planet and humanity than to chauvinism. Thus the chief province of anticipate-and-prevent is with the liberal Arts and the Social Sciences. The Natural Sciences are adept at identifying the ozone holes over the poles (caused by an earlier generation of scientists/technicians playing around with CFCs) and, after the fact, at prescribing possible cures. The Social Sciences and the Humanities are equally important, commanding the terrain in which social values are rooted, acquainted with the imperatives that drive the cultural system, perhaps able to identify those that require change if further monumental insults to the life-giving capacity of the Earth are to be avoided.

In short, "sustainable redevelopment" as a societal goal can involve all disciplines. It necessarily subjects to scrutiny western culture in its entirety, including the values and beliefs inherited from a 3,000-year humanistic tradition. For the environmental and social problems smiting the world are not freak accidents nor passing afflictions that can be waited out. They are clear danger signals, indicators of wrong actions based on faulty ideas. Events are shouting at humans to reexamine traditional values and attitudes, to search out new answers to the profound questions: Who in the World do you think you are, and What in the World are you doing? Both the theoretic and applied Arts and Sciences are on the dock, challenged to answer and to justify their answers.

April, 1988